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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,602	08/27/2001	Charles P. Kelly	MOT-D2191	5828

24375 7590 12/07/2004

VOLPE AND KOENIG, P.C.  
DEPT. MOT  
UNITED PLAZA, SUITE 1600  
30 SOUTH 17TH STREET  
PHILADELPHIA, PA 19103

EXAMINER
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CHAI, LONGBIT

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/787,602		KELLY ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Longbit Chai		2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. The application is filed on 08/27/2001 but claims the benefit of foreign priority has been made and acknowledged.

Therefore, the effective filing date for the subject matter defined in the pending claims in this application is 09/21/1998 on the benefit of foreign priority date.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

The arrow labeled from 3 to 2 shown on STEP 7 of Figure 5 is incorrect. It should be labeled as from 2 to 2 instead. See 37 CFR 1.71.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because the "shuffling function" set forth is comprised of a block size parameter and an increment parameter. It is unclear and there is no structure set forth to address the relationship between the first and the second shuffling functions.

Claim 7 is indefinite because the claim language "immediately" fails to point out what exactly the claim limitation is intended to encompass.

Any other claims not addressed (are rejected) by virtue of their dependency should also be corrected.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeidler (Patent Number: 5321748), hereinafter referred to as Zeidler.

As per claim 7, Zeidler teaches a video line shuffling method utilizing a shuffler at a first location and a deshuffler having a memory at a second location, the method comprising the steps of: sending a first series of data shuffled

according to a first permutation from the shuffler to the deshuffler (Zeidler: see for example, Column 8 Line 11 – 15: Zeidler teaches  $PRN' [j] = PRN [i]$ , such that  $PRN[i] = j$  and thereby  $PRN'$  is the inverse permutation of  $PRN$ ); and sequentially writing the first series of data into the memory such that data is written into a memory location immediately after that memory location has been read (Applicant Admittd Prior-art: Page 7 Line 22), sending a second series of data according to an inverse of the first permutation from the shuffler to the deshuffler (Zeidler: see for example, Column 8 Line 11 – 15 and : Zeidler teaches  $PRN' [j] = PRN [i]$ , such that  $PRN[i] = j$  and thereby  $PRN'$  is the inverse permutation of  $PRN$ ); and

Zeidler does not teach explicitly writing to memory locations defined by the data in the inverse permutation such that data is written into a memory location immediately after dial memory location has been read.

However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Zeidler because it is well known techniques to utilize a pair of memories, one memory typically is written in a cycle while the other memory is typically read from in order to perform the deshuffling as evidenced in the background section of the application as the Applicant Admitted Prior-art (Applicant Admitted Prior-art: Page 7 Line 22).

As per claim 8, Zeidler teaches a method of writing data into a memory having C columns and R rows defining a plurality of memory locations, the

Art Unit: 2131

method comprising the steps of: dividing the data into lines wherein each line contains a first length of data; dividing the lines into subsets each having a second length being smaller than the first length (Zeidler: see for example, Figure 3: The BLOCK-0, BLOCK-1, BLOCK-2 and BLOCK-3 are the subsets of the line); writing each subset into a selected row and column range of the memory such that each time a subset is written, the selected row is incremented by a value I (Zeidler: see for example, Figure 3: The RAM ROW 1 – 8 versus the COLUMN LINE 1 – 32).

As per claim 9, Zeidler as modified teaches the claimed invention as described above (see claim 8). Zeidler as modified further teaches I is selected so that each row has data written therein within a minimum selected time interval (Zeidler: see for example, Figure 5 Element 30 and Column 8 Line 61 – 66).

5. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeidler (Patent Number: 5321748), hereinafter referred to as Zeidler, in view of Robinson (Patent Number: 5555305), hereinafter referred to as Robinson.

As per claim 1, Zeidler teaches a video line shuffling method comprising the steps of applying a first shuffling function to a plurality of lines, the first shuffling function having a first block size parameter and a first increment parameter (Zeidler: see for example, Figure 1 and Column 52 – 61);

Zeidler does not disclose expressly applying a second shuffling function to the plurality of lines.

Robinson teaches applying a second shuffling function to the plurality of lines (Zeidler: see for example, Figure 9b: The shuffling functions P1, P2 and P3 perform permutations on a separate set of plurality of lines).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Robinson within the system of Zeidler because Robinson teaches providing an encoding and decoding system based on a shuffling system which greatly enhance the security and is sufficiently robust for use with broadcasts (Robinson: see for example, Column 1 Line 54 – 57).

Therefore, Zeidler as modified further teaches applying a second shuffling function to the plurality of lines, the second shuffling function having a second block size parameter and a second increment parameter.

As per claim 2, Zeidler as modified teaches the claimed invention as described above (see claim 1). Zeidler as modified further teaches line displacement in each shuffling function is limited to be within a block defined by the respective block size parameters (Zeidler: see for example, Figure 1 and Column 52 – 61).

As per claim 3, Zeidler as modified teaches the claimed invention as described above (see claim 2). Zeidler as modified further teaches line

displacement within each block is limited by the increment parameter (Zeidler: see for example, Figure 1 and Column 52 – 61).

As per claim 4, Zeidler as modified teaches the claimed invention as described above (see claim 1). Zeidler as modified further teaches the step of applying a third shuffling function to the plurality of lines, the third shuffling function having a third block size parameter and a third increment parameter (Zeidler: see for example, Figure 9b: The shuffling functions P1, P2 and P3 perform permutations on a separate set of plurality of lines).

As per claim 5, claim 5 does not further teach does not further teach over claim 1 and 4. Therefore, see same rationale addressed above in rejecting claims 1 and 4.

As per claim 6, Zeidler as modified teaches the claimed invention as described above (see claims 1 – 5). Zeidler as modified further teaches the block size parameter of one of the shuffling functions defines a block having at least one boundary coincident with a boundary of a block of another shuffling function (Zeidler: see for example, Figure 9b: The shuffling functions P1, P2 and P3 perform permutations on a separate set of plurality of lines have one boundary coincidence).



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 703-305-0710. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Longbit Chai  
Examiner  
Art Unit 2131

LBC

*E. J. Chai*  
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PRINCIPAL EXAMINER  
A/U 2136